WHAT IS CLAIMED IS:

1. An apparatus, comprising:

a multibeam antenna including at least one pair of independent transmit and receive apertures, wherein each aperture includes:

a beam former including a primary waveguide and a plurality of phase shifters; and

at least one secondary waveguide each of which is connected to one of the phase shifters and to at least one antenna element.

2. The apparatus of claim 1, wherein each aperture further includes a plurality of rows and a plurality of columns of radiating elements.

3. The apparatus of claim 2, wherein said plurality of radiating elements in each of said column are connected together via microwave transmission lines in a column secondary power splitter for said receive aperture or a column secondary power combiner in said transmit aperture.

4. The apparatus of claim 3, wherein said secondary power splitter/combiner is connected to said beam former to enable the steering of a radiation beam in one dimension.

5. The apparatus of claim 3, wherein said one dimension is the azimuth direction.

6. The apparatus of claim 1, wherein said beam former includes a primary power combiner/splitter which distributes and collects power in a serial manner to and from said phase shifters.

7. The apparatus of claim 1, wherein said beam former further includes a coaxial cable feeding the primary power combiner/splitter.

8. The apparatus of claim 1, wherein said primary waveguide is coupled to said phase shifters via broad wall slots that are spaced along the length of the primary waveguide.

9. The apparatus of claim 1, wherein said phase shifters are slotline phase shifters.

10. The apparatus of claim 9, wherein slot gaps in said slotline phase shifters are loaded with a voltage tunable ferroelectric material.

11. The apparatus of claim 8, wherein said slotline gaps width are capable of being varied along its length to provide for a non-uniform loaded slotline.

12. A method comprising:

providing a multi-beam antenna system;

controlling said multi-beam antenna system to enable transmission of at least one transmit beam and to enable reception of at least one receive beam, wherein said multi-beam antenna system includes:

at least one pair of independent transmit and receive apertures wherein each aperture includes:

a beam former that includes a primary waveguide and a plurality of phase shifters; and

at least one secondary waveguide each of which is connected to one of the phase shifters and to at least one antenna element.

13. The method of claim 12, wherein each aperture further includes a plurality of rows and a plurality of columns of radiating elements.

14. The method of claim 13, wherein said plurality of radiating elements in each of said column are connected together via microwave transmission lines in a column secondary power splitter for said receive aperture and a column secondary power combiner in said transit aperture.

15. The method of claim 14, further comprising steering a radiation beam in one dimension via said secondary power splitter/combiner connected to said beam former.

16. The method of claim 14, wherein said one dimension is the azimuth direction.

17. The apparatus of claim 12, further comprising collecting and distributing power in a serial manner to and from said phase shifters by a primary power combiner/splitter in said beam former.

18. The method of claim 12, further comprising feeding the primary power combiner/splitter of said beam former with a coaxial cable.

19. The method of claim 12, wherein said primary waveguide is coupled to said phase shifters via broad wall slots that are spaced along the length of the primary waveguide.

20. The method of claim 12, wherein said phase shifters are slotline phase shifters.

21. The method of claim 20, wherein slot gaps in said slotline phase shifters are loaded with a voltage tunable ferroelectric material.

22. An article comprising a storage medium having stored thereon instructions, that, when executed by a computing platform controls a multi-beam antenna system thereby enabling transmission of at least one transmit beam

and reception of at least one receive beam, wherein said multi-beam antenna system includes:

at least one pair of independent transmit and receive apertures where each aperture includes:

a beam former that includes a primary waveguide and a plurality of phase shifters; and

at least one secondary waveguide each of which is connected to one of the phase shifters and to at least one antenna element.

23. The article of claim 22, wherein each aperture further includes a plurality of rows and a plurality of columns of radiating elements.

24. The article of claim 22, wherein said primary waveguide is coupled to said phase shifters via broad wall slots that are spaced along the length of the primary waveguide.

25. The article of claim 22, wherein said phase shifters are slotline phase shifters.

26. The article of claim 22, wherein slot gaps in said slotline phase shifters are loaded with a voltage tunable ferroelectric material.

27. The apparatus of claim 10, wherein said voltage tunable ferroelectric material comprises $Ba_xSr_{1-x}TiO_3$ (BSTO), where x can range from zero to one.

28. The apparatus of claim 10, wherein said voltage tunable ferroelectric material comprises BSTO-composite ceramics.